



IN THE CLAIMS

Please amend claims 1, 18, 22, 27, and 28 as follows.

1. (Currently Amended) A mixer arrangement comprising:

a first mixer having ~~at least one~~ a first signal input configured to receive a first signal including a frequency of which is to be changed, a second signal input configured to receive a second signal including an inverse of the first signal, at least one ~~a first~~ frequency input ~~for receiving~~ configured to receive an input frequency, a second frequency input configured to receive an inverse of the input frequency, a first output, and at least one ~~a second~~ output, said first mixer being configured to mix the first signal with the first input frequency to provide an output which is output by said ~~at least one~~ first output and said first mixer being configured to mix the second signal with the second input frequency to provide an output which is output by said second output; and

a second mixer having at least one frequency input configured to receive the input frequency and having at least one output,

wherein ~~at least one~~ the first output of the first mixer and at least one output of said second mixer being combined to cancel unwanted components in the outputs of said mixers, and

wherein said unwanted components comprise said input frequency.

2. (Original) A mixer arrangement as claimed in claim 1, wherein said first mixer comprises a single signal input, a single frequency input and a single output and wherein said second mixer comprises a single frequency input and a single output.
3. (Previously Presented) A mixer arrangement as claimed in claim 2, further comprising a combiner configured to combine the single output of said first mixer and the single output of the second mixer.
4. (Cancelled).
5. (Original) A mixer arrangement as claimed in claim 1, wherein said first mixer is configured to provide a first output and a second output and said second mixer is configured to provide a third output and a fourth output.
6. (Original) A mixer arrangement as claimed in claim 5, wherein the mixer arrangement is such that the first output of the first mixer is an inverse of the second output of the first mixer and the third output of the second mixer is an inverse of the fourth output of said second mixer.

7. (Original) A mixer arrangement as claimed in claim 1, wherein said first mixer includes a first signal input and a second signal input, said arrangement being such that the first signal input is an inverse of the second signal input.

8. (Original) A mixer arrangement as claimed in claim 1, wherein said second mixer has two inputs, said two inputs being connected.

9. (Original) A mixer arrangement as claimed in claim 8, wherein a resistive element is provided between said two inputs of said second mixer.

10. (Original) A mixer arrangement as claimed in claim 9, wherein the resistive element of the second mixer has a resistance substantially equal to a resistance on at least one signal input of said first mixer.

11. (Original) A mixer arrangement as claimed in claim 1, wherein said second mixer has two inputs, at least one input of said two inputs is connected to ground.

12. (Original) A mixer arrangement as claimed in claim 1, wherein said first mixer having two frequency signal inputs and said second mixer having two frequency signal inputs.

13. (Original) A mixer arrangement as claimed in claim 12,
wherein one frequency input to each of said first and second mixers is configured
to receive an inverse frequency signal which is an inverse of a frequency signal which
another frequency signal input of each of the first and second mixers is arranged to
receive.

14. (Original) A mixer arrangement as claimed in claim 5, wherein the first
output of the first mixer is connected to the first output of the second mixer and one other
output of the first mixer is connected to the second output of the second mixer.

15. (Original) A mixer arrangement as claimed in claim 1, wherein said at least
one output of the first mixer comprises a first signal component resulting from mixing an
input signal with a frequency and a second signal component resulting from a frequency
signal, said second signal component being an unwanted component.

16. (Original) A mixer arrangement as claimed in claim 15, wherein said at least
one output of the second mixer comprises a signal component resulting from the
frequency signal, said signal component being an unwanted component.

17. (Original) A mixer arrangement as claimed in claim 15, wherein the at least
one output of the first mixer is combined with the at least one output of the second mixer

so that the signal component of the output of the second mixer cancels the second signal component of the output of the first mixer.

18. (Currently Amended) A mixer arrangement as claimed in claim 1, wherein said first mixer is configured to upconvert the frequency of the ~~at least~~first signal received at the at least one signal input.

19. (Original) A mixer arrangement as claimed in claim 1, wherein said first and second mixers having similar configurations.

20. (Original) A mixer arrangement as claimed in claim 1, wherein said at least one frequency input of said first and second mixers are arranged to receive a frequency from a common frequency source.

21. (Original) A mixer as claimed in claim 20, wherein said common frequency source includes a local oscillator.

22. (Currently Amended) A mixer as claimed in claim 18, wherein ~~said at least one~~the first signal is upconverted to a radio frequency.

23. (Original) A mixer arrangement as claimed in claim 1, wherein the mixer arrangement is incorporated in an integrated circuit.

24. (Original) A mixer arrangement as claimed in claim 1, wherein the mixer arrangement is incorporated in a wireless telecommunications entity.

25. (Original) A mixer arrangement as claimed in claim 24, wherein said wireless telecommunications entity is one of a base station and a mobile station.

26. (Original) A mixer arrangement as claimed in claim 1, wherein the mixer arrangement is incorporated in an image rejection mixer.

27. (Currently Amended) A method, the comprising:
receiving a first signal at a first mixer, wherein the first signal includes a frequency to be changed;
receiving a second signal at said first mixer, wherein the second signal includes an inverse of the first signal;

receiving an input frequency input at said first mixer;
receiving an inverse of the frequency input at said first mixer;
mixing the first signal with the frequency input to provide a first output from said first mixer;

mixing the second signal with the inverse of the frequency input to provide a second output from said first mixer;

receiving the input frequency at a second mixer;

outputting a second output from said second mixer; and

combining the first output of the first mixer and the second output of said second mixer to cancel unwanted components in the outputs of said mixers,

wherein said unwanted components comprise said input frequency.

28. (Currently Amended) A mixer arrangement, comprising:

first receiving means for receiving a first signal at a first mixer, wherein the first signal includes a frequency to be changed;

second receiving means for receiving an input frequency input at said first mixer;

third receiving means for receiving a second signal at said first mixer, wherein the second signal includes an inverse of the first signal;

fourth receiving means for receiving an inverse of the frequency input at said first mixer;

mixing means for mixing the first signal with the frequency input to provide a first output from said first mixer and for mixing the second signal with the inverse of the frequency input to provide a second output from said first mixer;

third-fifth receiving means for receiving the input frequency at a second mixer;

outputting means for outputting a second output from said second mixer; and

combining means for combining the first output of the first mixer and the second output of said second mixer to cancel unwanted components in the outputs of said mixers,

wherein said unwanted components comprise said input frequency.

29. (Previously Presented) A mixer arrangement comprising:

a first mixer having a single signal input configured to receive a first signal including a frequency of which is to be changed, a single frequency input for receiving an input frequency and a single output, said first mixer being configured to mix the first signal with the input frequency to provide an output which is output by said single output;

a second mixer having a single frequency input configured to receive the input frequency and having a single output; and

a combiner configured to select an output from one of the first and second mixers, to invert the selected output, and to add the inverted selected output to the non-selected output of the first and second mixers in order to cancel unwanted components in the outputs of said mixers, wherein said unwanted components comprise said input frequency.